

How and when was the igneous rock made? And what did people need it for?

Dear Danay,

Igneous Rocks come in many flavors, but all of them have one thing in common. They are all made from molten magma or lava that cooled and froze to form the rock. There are two main things that can happen to the molten rock. It can either get stuck deep down in the earth and slowly solidify. When that happens, crystals have time to grow large and you get a rock in which you can see the individual minerals very well. This



type of igneous rock is called a plutonic rock. Take for example this granite rock on the picture to the right. Here you can see the individual crystals.

When the molten rock, on the other hand, is projected out to the surface of the earth by a volcano, the molten lava will immediately solidify and the crystals do not have much time to grow. In that case, the minerals are very small. Sometimes, you even cool the rock so fast, that no minerals can grow. Then you will get volcanic glass. The rock in the picture to the right is a rhyolite. It is made from very similar molten rock than the granite above, but it was cooled much much more rapidly. In this scenario, you get a volcanic rock. So, the main



thing you can remember is that igneous rocks are made from molten rock and either cool slowly deep down in the Earth's crust and have large crystals (plutonic rock), or cool very rapidly at when they get ejected by a volcano (volcanic rock), and have very small crystals.

So, what are we using igneous rocks for? Well, the main thing that comes to mind is that many igneous rocks make splendid building materials. Depending on the type of rock, they can be used as slabs of rock that are put into buildings, or they can be used as ingredients for concrete. In the picture to the bottom left, you see a kitchen countertop made from a granite. On the right, you can see basalt fibre that is often used to reinforce concrete, because it is much lighter than steel. It is made from basalt, a black volcanic rock.

